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# Australia keeps a lid on covid-19 – for now

Alice Klein

EARLY signs suggest that Australia is beating the coronavirus, with the rate of new infections slowing for more than two weeks. But will the trend continue?

The number of new, confirmed covid-19 cases per day has been dropping in the country, from 460 cases on 28 March to 44 on 13 April. As of 14 April, there had been just more than 6300 confirmed cases, with 61 people dying from the virus so far and another 35 on ventilators.

The country's chief medical officer, Brendan Murphy, said in a press conference on 7 April that the situation is better than the best-case scenario predicted by government modelling in January. However, he said, it "could all come undone" if Australians flout rules put in place to contain the virus.

Australia's pandemic response has centred on shutting borders, limiting public gatherings and conducting large-scale testing and contact tracing. Travelling overseas is banned, foreigners aren't allowed to enter the country and Australians who return from other countries are kept in mandatory quarantine at specially designated hotels for two weeks.



REUTERS/LOREN ELLIOTT

## Bondi Beach in Sydney is closed because of the coronavirus

Social gatherings of more than two people are also forbidden and leaving the house is permitted only for essential reasons like buying food and exercising.

Australia has tested more than 360,000 people for covid-19. When someone tests positive, their close contacts are tracked down and ordered to self-isolate for two weeks.

The main reason for Australia's success is probably its strict travel restrictions, says Adam Kamradt-

Scott at the University of Sydney. About 70 per cent of Australians who have tested positive for covid-19 picked it up while they were overseas, he says, and being an island nation has made it easier to rapidly shut borders.

Social distancing, testing and contact tracing have added to the success, says Kamradt-Scott. Cultural factors may also have limited the virus's spread, like the fact that most Australians choose to live in separate dwellings rather than apartments.

Unlike many other countries, Australia has kept schools open, but these don't appear to have spread

the virus so far, says Kathryn Snow at the University of Melbourne.

Despite these successes, Australia has also committed some major blunders. For example, 2700 passengers were allowed to disembark from the Ruby Princess cruise ship on 19 March, even though many were showing covid-19-like symptoms. More than 600 cases have now been linked back to the ship. Some Australians have also ignored social distancing recommendations and crammed onto beaches and into parks.

The government says it is looking at ways to ease restrictions, but won't make any decisions until it sees how the coming weeks pan out. One option under consideration is lifting restrictions in individual states or territories on a trial basis before applying the changes nationally.

At the moment, about 10 per cent of Australians who have caught the virus don't know how they got it, which is a sign of community spread. Although this is a small proportion, it could easily spiral out of control if restrictions are lifted too early and people are allowed to mix freely, says Hassan Vally at La Trobe University in Melbourne. "We cannot relax yet." ■

## Post-viral fatigue

# Concern coronavirus may trigger post-viral fatigue syndromes

COULD the coronavirus sweeping around the world have a second illness following in its wake? We may expect to see an outbreak of post-viral fatigue syndromes in some people who have had covid-19, according to some researchers.

Viral infections have previously

been linked to problems with long-term fatigue symptoms. For example, chronic fatigue syndrome (CFS), which is also called myalgic encephalomyelitis (ME), sometimes occurs after viral infections. People who have CFS experience extreme fatigue and a range of other symptoms, such as pain and

sensitivity to light, but the condition is poorly understood.

So is it possible that the coronavirus could trigger similar fatigue syndromes? There are hints from the related SARS virus that this may happen. After the SARS outbreak of 2002 to 2003, some people in Toronto, Canada, who were infected were recorded as experiencing fatigue, muscle weakness and sleep problems up to three years later.

During Toronto's SARS outbreak,

273 people were diagnosed with the infection, of whom 44 died. After the outbreak had ended, Harvey Moldofsky, at the time a psychiatrist and sleep specialist at the University of Toronto, was asked to study 22 of those who had been infected and now had ongoing health problems that

**"I think the coronavirus will lead to many, many cases of post-infective fatigue syndrome"**

## Is wearing a face mask a good idea? Official advice on masks for the general public is mixed, and there are concerns about taking vital supplies away from healthcare workers, reports **Jessica Hamzelou**

AS CASES of covid-19 continue to rise in many places, some people are choosing to wear a face mask when out in public – but do they work?

Guidance on face masks varies among international health bodies and governments. The World Health

Organization (WHO) currently only

recommends face masks for people who are coughing or sneezing and for those who are caring for people who may have covid-19. In some places like Lombardy, the worst hit region of Italy, face masks are mandatory. The UK government doesn't advocate their widespread use, while on 3 April, the US Centers for Disease Control and Prevention recommended people wear "cloth face coverings" when they go out. The body even gives advice on how to make one. Part of the reason for recommending home-made masks is to reserve the limited supplies of medical face masks for healthcare workers, some of whom have, in some places, had to resort to making masks from bin bags, snorkels and office supplies.

Others have also been using cloth face coverings, but these aren't up to the job, says Raina MacIntyre at the University of New South Wales in Sydney. In 2015, MacIntyre and her colleagues ran a clinical trial pitting cloth masks against medical ones. The team provided 1607 healthcare workers at 14 hospitals in Hanoi, Vietnam, with either disposable medical masks or reusable cloth ones, which could be washed at home at the end of the day. Those with cloth masks were significantly more likely to catch a virus, the team found (*BMJ Open*, doi.org/gb5b9b).

But what about the rest of us? Paul Hunter at the University of East Anglia, UK, and his colleagues have looked at 31 published studies on the efficacy of face masks (*medRxiv*, doi.org/drj6). Overall, the evidence suggests face coverings may offer a small benefit. They do seem to prevent sick people from spreading the virus, but the evidence is weak and inconsistent, says Hunter.

"Our view is that there was some evidence of a degree of protection,

but it wasn't great," he says. "So we still don't effectively know if face masks in the community work."

Hunter thinks there is enough evidence to support mask-wearing for some front-line staff, such as those working in public transport or supermarkets, as well as vulnerable people who temporarily enter high-risk environments like hospitals, provided their use doesn't deprive healthcare workers of equipment.

MacIntyre agrees, and says that shortages mean home-made masks are worth using outside of healthcare settings. If you are going to make your own mask, there are

some important points to remember, she says. An effective face mask fits well around the nose, mouth and chin, providing a seal that doesn't let air in. It must also filter out particles that could contain the virus.

Vacuum cleaner bags seem to be particularly good at this, according to a 2013 study that compared various household materials based on their ability to filter bacterial and viral aerosols. Tea towels were reasonably effective, but linen and silk performed poorly (*Disaster Medicine and Public Health Preparedness*, doi.org/f5bsxw).

If you do wear a mask, it is important to use it properly. It is easy to contaminate your own mask by touching or reusing it, for example. And don't let wearing a face mask give you a false sense of security: you can still become infected while wearing one, and washing your hands frequently is vital whether you wear a mask or not.

Even if everyone followed this advice, it isn't clear whether widespread use of face masks would have a significant impact on the spread of the virus. The WHO says it is still trying to understand whether they work. "There's just not a lot of evidence for cloth masks in the community," says MacIntyre. ■



PETER CROWE/ALAMY

**People wearing face masks at a railway station in Hong Kong**

stopped them going back to work.

Moldofsky's team published its work in 2011. The researchers found that the participants generally had disturbed sleep, daytime fatigue, pain and weakness in muscles all over their body, and depression. "These symptoms were very reminiscent of CFS/ME," says Moldofsky.

His team only studied around 8 per cent of those diagnosed with SARS in Toronto, so we don't know what proportion of people who had

SARS experienced these symptoms afterwards. Nor is it known how long such symptoms lasted.

While the current covid-19 pandemic is caused by a different virus, it is a member of the same coronavirus family, so it might also cause a post-viral fatigue syndrome, says Moldofsky. "That's what I'm worried about."

Other viruses are known to trigger CFS after infection, such as the Epstein-Barr virus, says Simon Wessely, former president of the

Royal College of Psychiatrists. "We don't know about corona, but I think it will lead to many, many cases of post-infective fatigue syndrome."

"There is a long history of infections as a trigger but other factors contributing to longer term disability," adds Wessely. "If the virus is found to enter the brain, this might increase the risk."

"It's quite likely that some people will be developing a post-viral fatigue syndrome, which may then lead into an ME/CFS-like illness,"

says Charles Shepherd, a medical adviser to the ME Association, a UK patient charity. "What happens to people after the acute infection is clearly something that needs to be researched."

It may be a long time before we know more, as people need to have symptoms for at least six months before being diagnosed with CFS or ME, says Mark Guthridge at Deakin University in Melbourne, Australia, who has ME himself. ■  
**Clare Wilson**